

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-37. (Cancelled)

38. (Currently Amended) A method for detecting the presence of micromolar amounts of a toxicant in an aquatic, terrestrial, gaseous or industrial environmental sample, wherein the toxicant is a metal ~~ion~~atom, said method comprising contacting said sample putatively containing said toxicant with a nucleic acid molecule intercalated with a fluorescent dye; and screening for ~~either~~ dissociation of binding between said nucleic acid molecule and said dye, wherein said dissociation ~~or inhibition~~ of binding is indicative of the presence of said toxicant.

39-41. (Cancelled)

42. (Currently Amended) A method according to Claim 38, wherein the metal ~~atom is a heavy metal~~ or ion is a heavy metal ion.

43. (Previously Presented) A method according to Claim 38, wherein said fluorescent dye is selected from the group consisting of acridine orange and ethidium bromide.

44. (Previously Presented) A method according to Claim 46, wherein said substrate comprises glass, polystyrene, polymethacrylate, cellulose, nylon, polyvinylchloride or polypropylene.

45. (Previously Presented) A method according to Claim 44 wherein said substrate is polystyrene or polymethacrylate.

46. (Previously Presented) A method according to Claim 38, wherein said nucleic acid molecule is immobilized to a substrate.

47. (Currently Amended) A method for detecting the presence of a toxicant comprising a metal ~~atom~~ion in an aquatic, terrestrial, gaseous or industrial environmental sample, said method comprising contacting said sample putatively containing said toxicant with a nucleic acid molecule intercalated with a fluorescent dye; and screening for ~~either~~ dissociation of binding between said nucleic acid molecule and said dye, wherein said dissociation ~~or inhibition~~ of binding is indicative of the presence of said toxicant.